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Institutional Changes in Forest Resource Management and Change in Forest Coverage in Nepal

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Abstract

This paper explores the different institutions that have been evolved or brought up in Nepalese forest management history according to different policies of the state and its implication on local institutions to manage forest resource, and provide coverage of forest resource in different periods of time. It shows that the forest management policy of state was changing and local institutions were also changing to fill the gap of formal institutions. Before 1957 the state government's policy was focused on conversion of forestlands to farmland, and extraction of timber for export. After nationalization of the forests in 1957 policies were oriented towards national control of forest through strict rules and regulations by expanding forest bureaucracy. But it failed, as evidenced by widespread deforestation during 1960s and early 1970s, due to lack of organizational capacity, clear vision and plan. It argued that in local level nationalization of forests lead to develop forest firing system, open access to forest and other local institutions. From late 1970s the state tried to resolve the problem through reforestation and conservation through the local people participation with the help of donor agencies. It helped local people to empower themselves later on. Such participations were transformed into community participation forming users group in the management of forests in the community forest program. It was backed up by lots of training, conservation awareness campaigning, and so on. During that time conflicting collaborative management institution for open access system was developed among the central government, local villagers and local government. After enactment of National Forest Act 1993 and Forest Plan 1995 the community forestry program in Nepal increased aided by government investment and incentives, and civil society. The villagers also adapted following their traditions of community participation.

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1.0 Introduction

Nepalese forest management, specially after 1950s, is the much talked issues in forest resource management context internationally. It has also witnessed substantial shifts in forest policies, change in management institutions and resource condition. After publication of Himalayan Degradation Theory, and the related issues i.e agricultural, population growth and its impact (Eckholm 1975, Ives JD and Messerli B, 1989), nationalization of forest, panchayat forest program, and increase of community forestry program, Nepal is becoming a kind of centre for the study of forestry issues and related matters. Addressing the issues related to forest management requires a great deal of information on forests through time. A thorough knowledge of policy evolution, formal and informal institutions developed at local level as the results of the policies, reasons behind the failure and success of the policies and participation in the policies are of the utmost importance for future reform of the policy. A great deal of research in the past had tried to fulfill these requirements by studying biophysical changes in forest cover and policy (Virgo et al 1994, Schweik et al. 1997, Jackson et al. 1998, Gautam et al. 2002). Some of studies have been done related to forest institutions and its impact on community level as well as national level (Malla 2001, Gautam et al. 2002 Maharjan and Joshi 2005). Some studies have focused on indigenous forest management system (Fisher 1989, Gilmour 1990, Gautam K. H. 1992). Those studies, however, were neither able to explore insights of institutions changed in local level during the different policies in history of forestry nor could they established relations between policies, institutions changed and resource conditions. Some studies, however, explained about the local system developed during period of Nationalization of Forest in absence of local institutions (Gilmour and Fisher 1991, Bhatta 1989, Mahat et al. 1986). Most of those studies provided location specific institutions. None of the studies have provided compilation of different local institution developed, as a whole, during different period of time. Besides, most of the studies lacked proper definition of institutions.

This paper will, therefore, explores the institutions changed or evolved in local level as result of national policies in different period of time in forest management history and provide state of forest resource in those periods of time. In doing so, it explores, the kind of system developed in local level after nationalization of forest and reasons why nationalization was not successful. It also explains how community based forest management institution was developed, and why there is scale up of community based forestry program in Nepal. Especially, it reviews the policies from 1950s, that is after nationalization of forest, till implementation of community based forestry management program in Nepal. At the end of this paper it will discuss recent issues that need to be focused on community forestry program in Nepal. Before all this, the paper provides the definition of institution in the context of this study since different scholars are using different meaning of institution in the study of forestry sector. The most of the scholars neglected the local institutions for example, open access system, alliance between forest staff, local leaders and forest wood contractors and so on. This paper includes those as an institution by defining it.

The paper has been divided on the basis of time period according to change in forest policies. The period from 1950s to early 1970s can be regarded as nationalization of forest and its institutionalisation process along with its impact. From late 1970s to 1980s can be regarded as development period of people

participation in forest sector specially to re-generation and protection of degraded forest areas. During this period government along with different donors were focusing on regeneration and management of degraded forest.   From 1990s to till now can be regarded as development period of community based forest management institutions. Lots of donors along with government focused on empowering the local community to develop the institution and handovering the forest to the local community groups.

The second part of the paper mainly focuses on change in forest coverage in national level and in some cases local level on basis of studies done by different scholars according to different institutional set up.

2.0 Institutions

When talking about the institution there are lots of views in defining the institution that has been classified as old institutionalism (the works of Thorstein Veblen 1998, John R. Commons 1934, etc.) and neo-institutionalism (the works of Ronald Coase 1960, 1984, Harold Demsetz 1967, Douglass North 1990, Thrainn Eggertsson, 1990). In natural resource management sector the term "institution" has been used paradoxically with out properly defining its meaning. Some scholars used in the meaning of organization, some scholars used it in the meaning of policies and rules and some used it in the meaning as out come of both. In Nepalese context also, till now, the term institution has been used without proper definition. In some study it is linked with agencies and organization (eg. Gautam et al. 2004) and in some case it is linked with policies and rules (eg. Schweik 1997).

In a community there are rules mentioning who can access what resources, where, when and how much. These rules are instituted during the process of interaction and that instituted rules are out come of interaction between national or local governments or international policies, as well as local norms, custom, etc. These instituted rules in the society act as institutions to govern the natural resource. They are the humanly devised constraints that structure human interaction. It consists of formal rules, informal constraints (norms of behaviour, conventions and self imposed codes of conduct) and the enforcement characteristic (North 1990).

The definition of institution has been restructured in natural resource management sector by Crawford and Ostrom (1995) and defines institutions as "enduring regularities of human action in situations structured by rules, norms, and shared strategies, as well as by the physical world. The rules, norms, and shared strategies are constituted and reconstituted by human interaction in frequently occurring or repetitive situations". So institution does not mean only organizations it also includes the regular patter of human action that have been directed by some rules, norms or even culture. This definition of institution has been used in this study.

Formal institutions are provided through the state (North 1990). The informal institution evolves in due course in interaction with different rules, norms, interests, and needs. Normally, in the absence of formal institution for long time the informal institutions evolve. The most of the informal institutions are difficult to separate from other local institutional factors and cultural issues. For example, before nationalization of forest, *kipat, talukdari system, jimidari* and *guthi* system were there to manage forest locally. Those were all institutions. Open access to the forest is an institution because the enduring regularities or a rule of the open access institution is that "any body can access" which is self-enforced in the situation where there is no rule.

Some scholars argue that even in open access there is rule to access, which is difficult to track. For example, in a forest, where all the villagers openly collect forest good, a person from other village will not dare to collect forest goods from that forest unless he becomes familiar with the open access system in practice. In this point some scholar get mix up with common property and open access. Similarly there could be institutions that are not legal officially.   For example illegal forest contract is an institution in practice for long time in Nepal.

Institutional change refers to a shift in the rules, norms, shared strategies etc, or enforcement procedures so that different behaviours are encouraged or constrained (Levi 1990). Institutions are evolving and changing to establish the stable structure to human interaction. From conventions, codes of conducts and norms of behaviours to statute law, and common law and contracts between individuals, institutions are evolving and changing and therefore, affecting the daily life. Institutional change is complicated process because the changes at the local level (in practice or micro level) can be consequence of change in rules, policies, informal constrains and in kinds, and effectiveness of enforcement (North 1990). Even the state introduce formal institution in local level according to its polities, it may module into different way at local level according to local constrains, conventions, codes of conducts and behaviours. So it is important to examine condition of local institutions. The success and failure of national policies and institutions depends upon institution developed at local level to carry out its objectives. If the local institutions were diverted from the national policies and institutions then either policies is not good or the state is unsuccessful to carry out its policies. In this study this criteria has been use to see the success of national policies and institutions, it means, this study examine what type of local institutions were developed during different policies of forest management history of Nepal.

3.   Forest Resource Management Institutions and their changes

3.1 From 1950 to early 1970s

Priori to Nationalization of Forest (1957), the government policies on forest was to encourage the local people to convert forestland to agricultural land to increase food production and revenue from the agricultural land. The institution developed during those period were mainly focus on this policy. There was no formal legal act to regulate the forest. Normally, the forest was state property and it had rights to give authority to manage, utilize or even ownership right to any body. Under this there was *talukdari* system[1], *jimidari* system[2] (most of them are elites of village) kind of public institutions. They also supervised forest clearing and cropland development processes. Beside those, there was *kipat* system[3], *guthi* system[4], kind of

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[1] Under this system, national forest were in the control of *talukdars* who were the local functionaries who collect land tax before 1950s. They have management rights and they provide users rights to local community according to his own consensus and as directed by feudal system of the state. They could hire forest guard to look after the forest. The local people could harvest forest resource according to feudal rules directed by *talukdars*.
[2] The function of *talukdars* were carried out by *jimindar* in *Tarai* region, the southern belt of Nepal. The management system is same as *takuldar* depending upon consensus of *jimindar* and as directed by feudal system of the state.
[3] *Kipat* was communal tenure system of forest resource ownership and management. It had management system as decided by the members of the community, and forest collection and ownership rights were also decided by the *kipat* community members. It used to have leader, who might be the custodian of land but he is not its owner. He could assign certain forest areas to certain group of people with in the community to use and protect it. But he could not assign individual people or household to do so.
[4] Forest land assigned for the use of charitable, religious, or philanthropic organizations come under *Guthi* system. It also has communal management system by following the rules decided by the members of *Guthi* community or *Guthi* forestland granters.

community based institutions There were private institutions i.e. *jagir*[5] and *birta*[6] system. The revenue from those forest goes to the respective owners of jagir and birta. At local level, *jhara*[7] or *theki*[8] were there. The local villagers could get access to any forest resources by providing *jhara* or *theki* to forest owners or *talukdars* or *jimidars*. The main aims of all of those systems in forest management were to increase cropland and the revenue for the state (Regmi 1972).

After late 1920s, specially after establishment of *Kathmahal* (Forest Office) in 1927, the government initiated clearing of forest land in *Tarai* in order to collect revenue from the timber exported to British-India to build railway sleepers. The government policies at that time were to encourage the people to migrate into *Tarai*, increase cultivable land and collect revenue from the timber. During that time contract system to clear the forest areas had been developed. The *Kathmahal* collected revenue from those contractors. In 1939, the eastern and western wings of *Kathmahal* had been established with same purpose. Those people who migrated from different part of Nepal settled in those cleared land and started to convert it into settlement and cultivable land.

3.1.1 Nationalization of Forest

The popular movement in 1950 overthrew the Rana government. The government nationalized all the forests in 1957 through the Private Forest Nationalization act. The stated objective on the policy of nationalization was to release the land from the control of the few *birta* holders and to use the income for the welfare of the nation, and to prevent the destruction of forest and to ensure adequate protection, maintenance, and utilization of privately owned forest. One of the major intentions of the Private Forest Nationalization Act 1957 along with the *Birta* Abolition Act 1959 was to prevent the destruction of forest wealth and to ensure adequate protection, maintenance and utilization of privately owned forests (Regmi 1972). The new government had strong political and economic interests in taking control over forests away from the *birta* and private holders, to discredit the previous regime and to expand its own exploitation of the forest to generate revenue to support its development programs and political issues. The people in the new government were aware of the way in which the Ranas had been earning fortunes through the export of logs, especially from the *Tarai* forests in the south to the bordering states of India. This was reflected in the Ministries of Forest's activities, which was established in 1959, which were largely concentrated in the exploitation of the forest of the *Tarai* throughout this period (Gautam 1992).

The nationalization of forest led to tremendous controversy and ignited debates regarding its role in deforestation and destroying the indigenous management system. Brajacharya (1983), Fisher et al. (1989) and

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[5] It used to be private property come under the forestland granted in return of services to state which was normally not inheritable. It was kind of private institution so owners decided the rule and regulation for use of forest resources.

[6] It used to be a private property under the forestland granted to some persons by state, which was inheritable. It was a private institution so owners decided the rule and regulation for use of forest resources. The state had right to take over the *birta* forestland any time the state wise.

[7] It is a free labour system. To utilize the forest resource under private ownership the non-owner had to provide free labour to owners on requirement basis. In some areas, to access the state own forest that is under control of *jimindar* or *talukdar* also had to provide free labour.

[8] It is kind of gift system to utilize the forest under command of *talukdar, jimindar* or personal owner. Under this system the users had to provide free gift for example *ghee* (Unsaturated butter), milk, butter and so on specially the product of livestock since the forest folders were used for livestock farming.

Ives and Messerli (1989) mentioned that the most severe forms of deforestation in Nepal occurred after Nationalization Act. Many argued that nationalization destroyed the indigenous forest management systems depriving the local people of their right to manage and benefit from the forests (Hobley 1985, Messerschmidt 1993, Eckholm 1975). But it was clear that nationalization of forest could not fulfil the objective it mentioned in Nationalization Act and also could not have positive impact in community level forest management. It has been also proved by this study by exploring the institutional changed and evolved after nationalization of forest as discussed in next sub-section. Because non-of those institutions developed at local level was directed toward national institution of forest nationalization.

3.1.2 Reason of ineffectiveness of implementation of nationalization of forest

Any policies within itself is not bad and good. But it depends upon in which conditions the policies have been implemented and what are the policies implementation mechanism and enforcement system. There are mainly two reasons for ineffectiveness of implementation of nationalization of forest.

Organizational Capacity and Capacity of Staff to Enforce the Rules: Although the previous government (Rana government) had established *Kathmahal* (in 1927 and 1939) in some part of countries and District Forest Office (in 1942) with twelve posts (units) which was later expanded to 44 concentrated in *Tarai* areas, it was not enough to cover whole Nepal. Most of employees were untrained local staffs (Joshi 1993). At the time of forest nationalization in 1957, the country had less than a dozen of trained foresters (Gilmour and Fisher 1991). Because almost no infrastructure (roads, communication networks, etc.) existed, in no way could these few foresters effectively manage the country's forests and trained other. Although more trained foresters later joined the department, the number was always short of what was needed for effective control and management. The Forest Department staff never expressed their inability to manage the country's forests as doing so would have meant losing their government jobs, which are highly regarded in Nepali society (Gilmour and Fisher 1991). This lead to the ineffective implementation of nationalization of the forest.

Lack of Clear Vision and Plan: Even government stated the main objective of nationalization of forest was to preserve the forest from privately own forest holders and other forest in control of different people and utilize it for welfare of nation but it could not develop clear plan. In some cases it was promoting deforestation to generate national revenue and also resettlement plan from hill or mountains to *Tarai* region specially after eradication of malaria by establishing Timber Corporation and Fuelwood Corporation. On other hand government was enforcing forest law 1961 which gave emphasis on protection of forest and community participation on forest management. This showed that government had not clear vision in forest sector. Further, it could not demark the region or forest areas that had to be treated differently. In 1952, with the help of   FAO expert E. Robbe, a draft forest policy was prepared by Emerald J. B Rana (Malla 1991). As a policy point of view it was important document for that time and for designing forest policies later, which pointed out the need of community participation in forest management by allocating certain forest as community forest. It had proposed three types of management institutions by separating forest areas into Protected Forest - for natural conservation propose, National Forest - for national revenue generation propose and Community Forest - to supply daily subsistence need for community. But it was not approved by following government. However government enacted Forest Law in 1961, special Forest Protection Act 1967 and Forest Production Rules in 1970 only. These acts and rules provided strong power to forest

department to take action against defaulters thinking that human being as main cause of forest deforestation and it can be controlled by strict rules and punishment. All of these act and rules provided full authority to the local staff to decide the matters and take action against defaulters. This encouraged the corruption in forest department and helped to develop alliance between forest staff, local politician and timber contractors or forest resource users.

3.1.3 Institutional change after nationalization of forest

The Immediate Change: Prior to forest nationalization, local functionaries controlled vast areas of forests. After forest nationalization, local functionaries lost control over forests, and hence any interest in protecting them. Some responded by cutting trees on their land as quickly as they could, in the hopes of forcing the government to reverse the policy (Malla 2001). Some of them were, in fact, reported to have become involved in the indiscriminate cutting of forests not only in their previously own private forest but also in other forest by provoking local people (Bajracharya, 1983). Forest fire had been intensified in hilly areas. The local functionaries encourage local people specially the iron-smith caste (*kami*) and *Tamang* caste (whose one of the main occupation was to make fuel wood or charcoals from forest and sell it to local market) to fire the forest. Local functionaries occupied land cleared in such way, where as those caste people who cleared the land only get charcoals and some times become tenant for that land. This system spread in some of hill areas and got instituted as local system.

Development of Open Access: Local villagers welcomed the government's decision to nationalize forests looking to the opportunity to get out of the grips of local functionaries/elites. Although the action did not necessarily guarantee free access to forests, the villagers had good reasons to be hopeful. First, it appeared that the local forest would be no longer under the control of local functionaries/elites, which meant no more obligations (gifts, free labour, etc.) in exchange for forest use. Second, for the villagers, the Forest Department was removed, and thus not a day-to-day concern. The villagers interpreted this as a system that allowed almost free access to forests (Malla 2001, Gilmour 1990).

After nationalization of the forest, the indigenous forest management system (e.g. *talukdari, birta, kipat* etc), that were allowing the local villagers to access the forest resources following the local rules enforced by those systems, had been collapsed. However after nationalization, there was no other things to substitute forest products, which are daily essentials for local people. Neither was there an alternative for them to access the daily requirement of forest products specially firewood and folders for livestock. Some villagers, especially those with larger landholdings, started to grow trees on their own private farmlands to secure the regular supply of forest and tree products to meet their domestic needs and to maintain the farming system taking advantage of the different programs lunched through state or different organization i.e. free sampling distribution program, nurseries program etc. However, villagers with small landholdings and tenant farmers who were unable to grow trees on the land they tilled had to rely either on the large landholders (in most cases the local elites/representatives) or the government nationalized forest. Where there was no government enforcement system, the local forest easily became open to every body for daily necessary goods, which later on developed as open access forest. Those who had resources i.e. labours, social networks, etc. were easily able to extract huge forest resources. There was no rule and regulation in those areas and forest slowly started to degrade. During that time, the maintenance of forest exclusively depended upon the consensus and consciousness of local people to conserve and utilize the forest resource.

Development of alliance between forest staff, local leaders and forest wood contractors: The people in the new government were not unaware of the way in which the Ranas had been earning fortunes through the export of logs especially from the *Tarai* forests in the south to the bordering states of India (for railway sleepers). The Forest Department staffs who were given full authority over forests perhaps benefits most directly or indirectly from forest nationalization (Malla 2001). Although the stated objective of forest staff of Forest Department was to serve the state by managing the country's forest by utilizing it appropriately and distributing its daily needed resource to rural poor, their underline interest was to save their own job, and maintain power and prestige in the society. The only way they could do this was by seeking the cooperation of local leaders, representatives and forest wood contractors by creating win-win situation to all of them deceiving the national interests and laws. Interestingly, these local leaders and representatives were often landlords and their relatives – the very people who had served as local functionaries in the previous regimes, and who probably had suffered most from the government's decision to nationalize forests. Many of these local functionaries, prior to forest nationalization, exercising their right to restrict village people access and control over forest, and maximizing profit from forest. Many of them, for fear of losing control over forests and other resources and therefore prestige in society, began to seek key political positions in the new political system and to develop close alliances with the Forest Department staff and other important government officials. In other words, both Forest Department staff and local representatives or elites, saw the benefit of developing alliances with one another in order to serve their own unstated interests. The local contractors who were working closely with local functionaries before were also involved in this alliance. This kind of alliance has been instituted to access forest informally which was also regarded as one of the main reason for deforestation. This alliance was not concentrated in local level but also rooted in national level.

Evolution of New Local Institutions to Manage Forest: To fulfill vacant management system after nationalization of forest some local villagers were able to develop the management system based on their own knowledge which later on developed as indigenous forest management system (Gilmour and Fisher 1991). Most of those systems were based on community involvement. The rules were not the only collection of forest resources but also protection of forests, and some of which were administered rationally (Robbe, 1954). The system develop during this period differ from place to place depending upon villagers consensus and consciousness. The most of system were developed by villagers themselves the rule to collect forest resource, plantation, conservation and protection method were also developed by themselves. The work responsibilities were divided into the community members and a group of management committee was also formed, normally, in most cases. Bhatta (1989) reported the practice of such system in the forests he studied in Kaski district. Fisher et al. (1989) noted some similar history in case of two forests (Ganesthan and Maina-bisauni forests in Sindhupalchok district). Jackson (1990) recorded community managed system functioning until 1959 in a forest at Kabhrepalanchok district. Similarly Mahat et al. (1986) mentioned such cases in the case of Kavrepalanchok and Sindhupalchok districts that local communities managed the forest by employing a forest guard to check illegal accessing according to their own rules, such guards were compensated with, by providing some cereal crops and cash on annual basis.

3.2 From late 1970s to 1980s

When the government introduced the Forest Act in 1961, it incorporated into it, the idea of transferring some

government forestland to the village Panchhayats9 for the use of local communities. But it could not enforce due to lack of detail rules and regulations. Due to increasing concern of scholars and donor countries in environment preservation in Himalayan areas and community participation in forest resource management in 1970s, the government also began to express an overwhelming concern for forest resource conservation and for the need to meet rural communities' requirements for forest products. Donors also started to put pressure on government to formulate conservation and participation orientated policy through decentralization. As a result the detail rules and regulations were made in 1978 as Panchayat Forest and Panchayat Protected Forest Rules 1978 (amendment to Forest Act 1961), which designed to establish community forests throughout Nepal. At the same time, the government set aside a number of forest areas for reserves and national parks and created a separate Department of Wildlife and National Parks and a Department of Soil and Water Conservation. The stated objective for these actions by the government was to protect the environment, preserve wildlife and biodiversity, meet the basic needs of rural people, support agricultural production, and thereby contribute to the process of rural and national development. In 1970s the donors role also changed from technical support to government to participation in community development and other institutional strengthening in local and national levels.

During that time forests were categorized into six classes: Panchayat Forest (PF) and Panchayat Protected Forest (PPF) both under management of village Panchyat, Religious Forest under management of guthi, Leasehold Forest under management of a person or group of persons, Private Forest, and Government Forest. Participatory management of PF and PPF were further strengthen by Decentralization Act 1982, which formalized duties and responsibilities of village Panchayats and ward committees, and empowered them to form peoples committee for forest conservation and management.

3.2.1 Institutional Change During the Period

Development of Conflicting Collaborative Management Institutions from Open Access: Panchayat Forest and Panchayat Protected Forest rules provided the right to hand over of responsibility of the management of both barren government land and government forest, in the form of Panchayat Forest and Panchayat Protected Forest respectively, to the relevant Village Panchayat. The main objective of this rule was to return ownership of the forest resources to the rural people who need it most. Under these rules, however, the forest could only be handed over to the Panchayats, the village users of an individual forest have to participate in protection and regeneration. The villager users under the rule made in operation plan could utilize the available and the regenerated forest product. In this way it tried to generate collaborative management institutions. Under these rules a village Panchayat was able to apply for up to 130 ha of severely degraded (often totally deforested) government forestland, which it then had to plant with seedlings, protect and manage under the general supervision of the District Forest Officer (DFO). This forestland was then designed as PF. Likewise a village Panchayat was able to apply for up to 500 ha in *Tarai* and 272 ha in hill of government forest, restock it if necessary, and protect and manage it under the general supervision of the DFO. This forestland is designed as PPF. In order for hand over to occur, an interaction between the community and the staff of the Forest Department is required and to legitimize the community's right to harvest forest products this interaction must lead to the development of an Operational Plan, which indicates

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9 During the Panchayat rule, a village *panchayat* refers to the rural territorially based politico- administrative unit, which was sub-divided into 9 wards. Following the restoration of a multiparty democratic system in April 1990 these units are now referred to as a Village Development Committee.

how the forest will be managed.   In Operational Plan detail rules of access and control should be mentioned. But Operation Plan put more emphasis on control than distribution of forest resource and Village Panchayat had more power than local villagers to decide the access and control rights. This escalated the conflict between Village Panchayats Committee and local people.   Panchayats were to receive free seed and saplings from government and were entitled to all proceeds form sale of products for PF (and 75 percent of proceeds from PPF). Villagers were able to harvest their daily need product and timbers for their own construction proposes with recommendation from Panchayats only and other rules made by them.

As the process of handover of PF and PPF, in successful areas it was able to develop joint management institution by separating duties, rules and enforcement system of villager users, village panchayat and DFO. But during that time formation of PF and PPF was not high. Rules for accessing the forest resource were decided by the Village Panchayat and local people could not directly get involved in forest management. Reforestation was the main activity and DFOs were hesitant to hand over the management of natural forest to the Village Panchayat. Village Panchayats also did not take initiatives to convert local forest into PF or PPF due to lack of incentives. Side by side the government still focused on revenue generation from forest by controlling it rather than encouraging direct community participation (Fisher 1991).

Shift from Revenue Orientated to Regeneration and Protection: Before 1970 government and foreign donors policies over the forest was technical aspect i.e. nursery, tree improvement and plantation and revenue generation. But after 1970s lots of people had highlighted the issue of environment degradation and bio-diversity lost due to rapid population growth and forest degradation in Himalayan area (Eckholm 1976, Ives and Messerli 1989, Gilmour and Fisher 1991). In the global context also they were hot issues led both government and donors agencies to reconsider the whole approach of development including forest resource management. This led to a shift in emphasis from exploiting forests for generating revenue to that of planting and protecting the forest and also emphasised the local people participation in forest resource management. The institutions were developed to focus on protection, saplings distribution and nursery establishment. DFO's role also shifted from revenue generation to protection of forest. They started to distribute tree sapling in free of cost in collaboration with different donors agencies. The human resources were also trained in that direction. The massive awareness programmes were lunched in tree plantation, nursery operation and protection of forest. The DFOs were evaluated on basis of numbers of saplings distributed and numbers of nurseries established. Trainings in local level were mainly focused on how to plant tree, why plantation is necessary (environmental awareness), how to established nursery and so on.

3.3 From 1990s to till 2000

In 1988 Master Plan for the Forest Sector was designed which re-examined the policies in forest sector. It adopted 21-year long-term approach to forests. According to Forest Sector Master Plan 1988 for the country, the objectives of the forest management are, 1) to meet people's basic needs for fuel-wood, timber, fodder and other forest products on a sustainable basis, 2) to protect land against degradation by soil erosion, floods, landslides, desertification, and other effects of ecological disturbances, 3) to conserve the ecosystem and genetic resources, 4) to contribute to the growth of the local and the national economy by managing forest resource, and 5) to develop forest based industry to create opportunities for income generation and employment.

The Forest Act 1993 and Forest Rules 1995 endorsed the objectives set out in the Forest Sector Master Plan 1988.

Under the acts mentioned above, currently the forestland can be divided into two main ownership systems in macro level.
1) State Own
2) Private Own

The State own forest further can be divided to five categories according to its management system. National Forest (Under Solo Management of Department of Forest (DoF) and District Forest Office(DFO)), National Park and Wildlife Conservation Area (Under Management of Department of National Park and Wildlife Conservation), Community Forest[10] (Under Management of Local Users Group in Coordination with District Forest Office and Community Forestry section of Department of Forest), Guthi Forest (Under Management of *Guthi* Corporation[11]) and Lease Hold Forest (Under Management of Lease Holders).

Among them community forest has been much talked nationally and internationally. The effect of community based policy and legislative changes has been positive. At community level it is instituted and developed as community based organizations. It has been dramatically expanded in terms of both spatial coverage and number of forest handed over to local communities after the enactment of new forest law and rules. Department of forest records, in December 2004, show that a total of 13,749 registered community forest groups that occupy 1,455,221 households managing 1,134,372 ha of community forest land (MOFSC, 2004). It means that about 19.2% of total forest and shrub land of the nation is being managed by the community.

3.3.1 Reasons of Increase in Community Based Forestry

Investment and Incentives: From 1983 to 1988, 5 regional directorates and 75 DFO have been established. The Master Plan strongly emphasized the community forest and allocated 47% of the total investment in the forest sector to community forest development programs. Increased environmental concerns, especially with respect to global warming and biodiversity loss, have led many donor agencies to put greater focus on the management of national parks and other protected areas, epecially World Bank, UNDP who help to develop buffer zone and community forests in the protected areas. Some key field projects, especially Nepal Australia Community Resource Management Project, Nepal Swiss Community Forestry Project, and the UK Government Supported Livelihood and Forestry Programme have begun to concentrate on community forestry activities. They invested huge amount of money to empower DFO and DoF staffs and local community to manage the community forest. They also provided incentives to the staffs through domestic and international training, seminars, workshops etc. (Joshi, 1993) The staffs were motivated to form community forests by enacting rule numbers of forest user groups formed as criteria for promotion and grading. These factors helped to increase community forest in Nepal.

Civil Society Movement: In 1990, following the people's movement, the multiparty system was restored in

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[10] Since the political changes of early 1990, which also abolished the Panchayat System, the government bureaucracy had proposed the replacement of Panchayat and Panchayat Protected Forest with the single term Community Forest by the Forest Act 1993.
[11] Forest under this could be private forest as well as State own forest or own by temples, festival itself.

the country. The civil societies organizations, especially NGOs, have emerged at the national and local levels. Many NGOs are actively involved in presenting issues of grassroots and national concerns to the government and general public. Some, for example Nepal Forum of Environmental Journalists (NEFEJ), have focused on debates regarding the country's natural resources, including forests, should be used and managed through community participation. Some NGO, for example, Women and Environment Nepal (WEAN) have even started to advocate for local communities' use rights in forests, especially the rights of those living in and around protected areas, and to initiate community forestry in the *Tarai* region as well. Political reform and the emergence of civil society organizations added new dimensions to the debate on ways in which how the country's forest resources should be managed and used, and opened the possibility for the community participation in large extend. International NGOs and bilateral project for example, Nepal Australia Community Resource Management Project, Nepal Swiss Community Forestry Project, and the UK Government Supported Livelihood and Forestry Programme also started to work with local NGOs by empowering them on participation, organizational development. These field projects have begun working with some of the most dynamic NGOs, taking advantage of their knowledge of community problems and needs, to promote community forestry as a means to rural development.

Villagers Attitude: Despite the promise of decentralization, environmental protection and rural development, as embodied in forestry policies through community participation, the situation of forest management did not improve much during the 1970s and 1980s. The villagers did not feel that they were allowed to participate in forest management since they were not allowed to collect forest product fully and could not fully participate in rules and decision makings. After Forest Act 1993, when government allowed full handover of the forest to the community user groups, the villagers took it as they got back their forests and were able to access the forest goods (Malla 2002). At the same time they were also empowered to think of environmental issues by providing training and massive campaigning and they were trained to make forest plan and management plan etc. For them, the community forestry policy reflected the typical attitude of government towards the rural poor, as well as the inability of DoF and DFO's staff to manage the country's forest resource. The local villagers started to take it as challenge and opportunity. At the same time they felt that if the neighbouring villagers could do why not we so that we also can get benefit from the community forest. This helped to feel the local villagers ownership toward the community forest (Gautam at al 2004). It also helped to develop spontaneity in forest group formation and spontaneity in acknowledging the necessity of forest group and community participation in managing the forest, which is the necessary condition for development intervention to be sustainable (Maharjan 2005).

Tradition of Community Based Management: Nepalese people have experienced community based management traditionally. The systems i.e. *gausthi,* which is later termed as *guthi*, *panchali* system (traditional local governance system), *kipat* system, etc. were there from before. All those system were community based management system with different people participation in different ways. The system for example *jhar*, free labor to complete national or public duties and community involvement to organize public feast and festival were also noticeable. But some of those systems were later distorted in different ways even though the main concern of all those system was people participation and collective work to achieve something at local level. All of those systems had a leader to lead the system and other people in line performing the needed duties. The community forest programs also have similar characteristics. So inherited characteristics of participation were well fitted in newly developed community forest, which in fact were not

new for them in term of management, participation, following leadership etc. All these condition helped to institutionalize and expand community forest program in Nepal.

3.3.2 Change in Local Institutions

Community Based Management Institutions: The successful scales up of community forest program have instituted community-based institution in forest resource management. The villagers are able to generate their own rules of collection, conservation, protection and regeneration along with revenue generation and utilization in community development works i.e. building school, road construction, fund mobilization in micro-credit system and so on. They also have their own enforcement mechanism and regulation for punishments and rewards. They have the election system to select leadership and other committee members, to design the policies and rules for their forest. If they are unsatisfied with the rules or regulation decided by the working committee they can discuss them at general assembly, officially. All these made the institution a truly community based institution to manage forest resource.

Changing Role of DFO: Prior to 1990s DFO's main role was to control the forest to protect it as well as use it for revenue generation and enforce punishment to illegal harvesters rather than handovering forest to PF and PPF. And the administration structure had been established in that way. After master plan and introduction of Forest Act 1993 and Forest Rule 1995 the role of DFOs have also been changed accordingly. They were trained to work as facilitators and technical supporters. The administration structures have been changed to facilitate community based management institutions by opening new section in DFO, Community Forest Section. Their role is to provide the guideline for community forest group formation to interested forest users and to provide training on technical issue. Their main objective was highlights the community forest policies and expand the community forest user groups through out the country. The rules, regulations, planning, and so on were made by the community forest users group themselves. DFO's previous attitude of control and command role has been shifted as facilitator and some time technical supporters.

4.0 Changes in Forest Coverage

The correct data of forest coverage in Nepal till 1950s is not available. It is assumed that deforestation was very high during that time since state policy was to expand agricultural land and collect revenue from the hard wood in *Tarai*, and encourage the migration from hills to *Tarai*, specially after eradication of Malaria. The rate of deforestation was higher in hills and mountains areas also due to higher requirement of daily subsistence need of forest resources aided by higher population growth and government policy of forest nationalization. Total 18,2770 hectors (ha) forest area were officially cleared under state policies to encourage migration from hill and collect revenue from the sell of timber and increase agricultural land from 1950s till 1985 in *Tarai* areas (Bajracharya 1986). From 1956 to early 1970s total 85,698 ha and from late 1970s to early 1980s total 80,885 ha had been cleared under this state policies, officially. Most of researcher believed that far more than above mentioned areas of forest had been cleared during that period officially and unofficially.

The first scientific measurement of forest resource in Nepal was carried out by Forest Resource Survey Office with assistance of USAID. On the basis of aerial photo taken during 1953 to 1967 covering the 10%

of total survey areas, the total forest areas was estimated to be 6.4 million ha. (Wallace 1981). This survey did not cover high mountain areas and there was gap in hills areas as well.   Later on Water and Energy Commission (WEC) in 1964-65 estimated the total areas under forest including shrub land as 6.5 million ha, distributing 3.9 million ha in hills and mountain, 1.7 million ha in *Siwaliks* and 0.8 million ha in *Tarai* (Table 2).

The most recent and probably the most accurate assessment of the condition of Nepal's forests was made by the Land Resource Mapping Project (LRMP). The survey was based on aerial photography flown in 1978-79, supplemented by extensive field checking. LRMP estimated the total area of forest including shrub land as 6.3 million ha, distributing 4 million ha in mountains, 1.7 million ha in *Siwalik*s and 0.6 million in *Tarai*, which means that during the years of 1964 (WEC) to 1978 (LRMP) there was no detectable loss of forest areas. In Hills and mountain forest was increase by 0.1%, in *Siwaliks* it is decreased by 0.2% and in *Tarai* it is decreased by 1.7% annually.   LRMP has mentioned that there was decrease in density of around 2.1% of over all tree crown cover. This period coincides with the period of maximum conversion of forestland to agriculture land in the *Tarai*, which means that the figure for the Hills could be lower.

In 1985-86 Master Plan for Forest Sector (MPFS) has adopted the Land Resources Mapping Project (LRMP) data and update the status of national forest categorizing the land use as follows:

- **Cultivated lands:**   All lands under agricultural practices.
- **No cultivated inclusions (NCIs):** these are small pockets of land close to cultivated lands; too small to be mapped at a scale of 1:50,000. Although these pockets are not mapped separately from cultivated areas, there are nevertheless measured as a distinct land use category. They may contain barren areas, trees, shrubs, or grass.
- **Grasslands:** large flat lands covered by grasses with the minimal number of other vegetation.
- **Forested lands:** must have at least 10% crown cover but small pockets of plantation and burned areas are also included.
- **Shrub lands/degraded forestlands**: less than 10% crown cover shrub, forest and degraded forestlands.
- **Other lands**: All land areas not included in other categories and may include rocky areas, lakes, ponds, waterways or settlements.

TABLE 1 Land use, 1985-86 ('000ha)

Regions	Cultivated lands	NCIs	Grasslands	Forested lands	Shrub lands/ degraded forestlands.	Other lands	Total
High Himal	8	1	885	155	67	2,234	3,350
High mountains	244	148	508	1,639	176	245	2,960
Mid mountains	1,223	667	278	1,811	404	59	4,442
Siwalicks	269	59	16	1,438	29	75	1,886
Tarai	1,309	123	58	475	30	116	2,110
FWDR[12]	302	113	212	991	52	274	1,944
MWDR	465	178	783	1,641	76	1,138	4,281
WDR	608	229	437	900	142	619	2,935
CDR	818	239	138	1,063	238	238	2,734
EDR	859	239	175	923	198	460	2,845
Total	3,052	998	1,745	5,518	706	2,729	14,748
Percent (%)	(21%)	(7%)	(12%)	(37%)	(5%)	(18%)	(100%)

Source: Master Plan For Forest Sector (1988/89)

By comparing LRMP (1978-79) and Master Plan (1985-86), there is increase in forest and shrub areas by 0.8% annually in mountains, and decrease by 1.9% and 2.1% in *Siwaliks* and *Tarai* annually (Table 2).

TABLE 2 Changes in forest plus shrub cover over time by physiographic zones. Area in '000 ha; shown within parenthesis is the data source

Zone	1964–1965 (WECS)		1978–1979 (LRMP)		1985–1986 (Master Plan)		Annual rate of change (%)	
	Area	%	Area	%	Area	%	1965–1979	1979–1986
Hills & Mountains	3,944	36.7	4,016	37.4	4,252	39.5	+0.1	+0.8
Siwaliks	1,739	92.2	1,698	90.0	1,467	77.8	-0.2	-1.9
Terai	784	37.2	593	28.1	505	23.9	-1.7	-2.1
Total	6,467	43.9	6,307	42.7	6,224	42.2	-0.2	-0.2

Source: HMGN/ADB/FINNIDA (1988)

The latest forest resource survey named as the National Forest Inventory (NFI) was conducted by Department of Forest Research and Survey between 1987 and 1998 by using different satellite images taken in 1990 and 1991 in *Tarai* and aerial photos from hills and *Siwaliks*. It gives based year as 1994. It shows that 4.3 million ha (29%) areas under forest and 1.6 million ha under shrubs (DoFRS/FRISP 1999). By comparing Mater Plan (1985-86) and NFI (1994) the annual decrease in forestland was 2.5% and annual increase in shrub area was 13.4%.

Besides these, there are a numbers of other studies conducted on various part of the country that estimated the deforestation or forest condition of Nepal. Wallace (1981) conducted study by comparing official date of

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[12] Nepal consists of 75 districts grouped in five development region, Eastern Development Region (EDR), Centre Development Region (CDR), Western Development Region (WDR), Mid-Western Development Region (MWDR) and Far-Western Development Region (FWDR) cross-cutting from north to south.

1964 (WECS) with a study conducted by an integrated watershed management project in 1975. He found that 2.3 million ha of forest was lots in one decade that was over one-third of national total. Martens (1983) estimated that the forest was being eliminated at the rate of 2% annually. Joshi (1984) estimated that the rate was 3% during 1970s. Tiwari (1991) observed an annual rate of deforestation of 0.3% and an increase in cultivated land of 1.7%. Rautianinen (1991), based on aerial photographs taken in 1972-1986, calculated the average annual loss of forest area at 0.9% and the decrease in crown cover as 1.2%. Dense forest declined by 2.4%, medium density forest by 12.7% and scattered forests by 5.5%. Grassland has increased by 18.7% and shrubland by 12.7%. Banskota et al (1990) estimates the average annual deforestation rate at 44 000 ha (or 0.8% annually) and the average annual reforestation accomplished in all categories of plantations (government, community, private) at 7 900 ha which, at a 60% survival rate, amounts to a meager 5% of the area deforested.

The most of past study present a gloomy picture of deforestation in the country. However it is clear that the deforestation was continuing in *Tarai* in high rate than other areas followed by *Siwaliks* areas whatever the policies and institutions were developed. From data it is clear that forest areas in mountains have been increasing but in *Tarai* and *Siwaliks* areas they are decreasing. The number of recent studies also showed that the forest areas in mountains areas (that covers hills areas also) are increasing (Schereier et all 1994, Jackson et al. 1998 Gautam et al 2003).

4.0 Discussions and Conclusion

From the paper it is clear that policies on forest in Nepal have been changing frequently as the results there are changes in local institutions that was governing the forest resource management. Through the parallel analysis of polices, its failure and success, local institutions and forest condition, this paper attempted to give insight of relation and changing context of forest governance and resource condition. Changes in forest policies directly effect the local institution, which ultimately affect the state of forest resource. But available statistics in forest condition do not exactly match with policies and changing local institutions. Regardless of such limitation this paper attempted to show the relations among them. The failure and success of the policies depend upon the institution developed at local level and their enforcement mechanism. Besides, it also depends upon it adaptation by local people and role of civil society.

The following conclusions and associate policy implications for future designing forest governance in Nepal can be made.

First of all, success of policies depends upon successful introduction of local institutions to fulfil the objectives of the policies. New policy introduction and development of local institution should go side by side. When the government introduce private forest nationalization act 1957, the forest act 1961 there was no local institutions to regulate those act and it was against the previously adopted localized institutions. Due to lack of human and other resource it was impossible to develop new local institution in line with those acts immediately. As the result different local systems were developed to fulfil local needs and personal interests. Despite extensive increase in forest bureaucracy in 1980s the government could not institutionalised those act and policies to manage forest by the government bureaucracy.

The long-existing traditional and indigenous forest management systems operational under different local

institutions at different times and locations generally have strong roots with system of local society. New policy introduction should consider such systems for effective implementation. The systems i.e. *talukdari*, k*ipat*, *guthi* were there to manage forest but it had not been taken into consideration during nationalization of forest, which proved to be a failure.

Secondly, it is important to incorporate local people to get desired outcome of policy implementation or reform. The failure of the nationalization policy even after expansion of government bureaucracy and strict rules and punishments, forced the government to reconsider the policy and introduce the Panchayat Forest and Panchayat Protected Forest Rules in 1978 after designing National Forest Plan in 1976. This plan and rules encouraged the local people participation in forest management. This showed that government had realized the role of local people in managing the local forest that was providing their daily subsistence need after two decades. Even then, it took nearly another two decades to fully institutionalized the community participation in managing the forest through step wise improvement and empowering the community. It has now embedded within the government institutional structure along with local government that community forest user groups as a responsible local organization entrusted to manage and use forest (Collett et al 1996).

Third, the success of community forestry came from long way. The idea of community forest in Nepal was introduced in 1952 by a draft policy of FAO expert. It helped the government to develop the National Forest Plan in 1976. The Panchayat Forest and Panchayat Protected Forest Rules in 1978 introduced the concept of community participation. Even during that time the local institution developed was just for regeneration and protection through saplings distribution, tree plantation and providing training in awareness building and massive campaigning in importance of peoples participation in conservation, this step was very important. It helped to empower the community in participation and conservation activities. During that time local forest governance body of government was given authority to manage the forest by distributing access and collection right to local forest to local people besides protection and plantation. Peoples participation in this way helped to feel local peoples' ownership especially due to participation in regeneration and protection. Although there was conflicting collaborative management system it helped the local people to go one step further for full community management of the forest. So stepwise improvement helped the progress of community forestry even though it happened in an unintended way.

Last nor least, the external factor i.e. international society (that include donors, international civil society, neighboring and related countries, scholars and all other well wishers) and local civil society specially Non-Governmental Organization also play crucial role in policy reforms or new policy introductions. Their concerns, roles, influencing power also affect the policy and local institutions. For example, after research in Himalyan areas in mid 1970s the issue of deforestation was much highlighted. As a result international society, mainly World Bank, FAO, etc. took interest in Nepal's forest management and supported the creation of sound forest policy. The policy developed during 1970s period were much influence by them. The supportive role of international society in community forestry is also example to consider external factor during the policy formulation. They mainly helped in awareness creation in conservation matter, empowering the local community in participation and institutional build up. Today also, the international societies are facilitating the government and local civil society to empowering the local institution to develop the program and policies toward the poverty reduction along with conservation and management of resource. Some of them are helping to develop network of local institutions in district and national level by

strengthening their institutional capacity eg. formation of District Federation of Community Forest Users Group, National Federation of Community Forest. In future the international society may help local institutions in coordination with the government to develop policies in line with international agreement. For example they may work together in the issue like carbon trading and eco-labelling of forest products from community forest in line with Kyoto Protocol.

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Annex I
Government Policies and Change in Local Institutions and Essential Difference

Year	Government Policies	Local institutions developed	Essential difference
Before 1950s	Encourage local people to convert forest into agricultural land and settlement through local functionaries	*Talukdar, jimidar* as public institutions; *birta, jagir* as private institutions; *guthi, kipat* as community base institutions	Most of them are non-formal institutions since it was not guided by rule of law or any forest regulation. There was not forest law during that time.
From 1950s to early 1970s	Nationalize all forest to remove control of local functionaries and *birta* holders and utilize it to benefit nation by expanding its controlling through its bureaucracy by selling hard wood from *Tarai*.	Government expand *Kathmahal* in different areas but could not manage the forest. As a result different local system were developed which later on institutionalised in local level. Forest firing, open access, systematic firing, development of alliance between forest staff, local leader and forest wood contractor are common institution. Side by side other self-enforced community-based institutions were also developed during that time.	No *Talukdar, jimidar*, *birta, jagir, guthi, kipat* in community level. But system based upon community involvement in specific action to fulfil its interest have been developed in absence of government bureaucracy in local level to introduce the local institution. Even government introduce those bureaucracy it converted into alliance with local elite/leaders and wood contractor to benefit each other.
From 1970s to 1980s	Conservation and expansion of forest through participation of village *panchayat* and people by introducing PF and PPF and Act and Rule 1978. In national level there was Private Forest institution as personal or private company's ownership, PF and PPF as community institutions under management of Village Panchayat under ownership of government, National	Conflicting Collaborative Management Institution and Regeneration and Protection oriented institution in DFO	The government handed over partial management rights to Village Committee and the local people. But due to unclear policies and lack of proper management ownership with in one party the conflicting collaborative management system was developed during that time. DFOs were emphasis for regeneration and protection by distributing tree sapling and enforce the rules.

	Park and Conservation areas as national institution under control of government.		
From 1980s till 2000	The Forest Act 1993 and Forest Rules 1995 that endorsed the objectives set out in the Forest Sector Master Plan 1988. The main objectives are 1) to meet people's basic needs for fuel-wood, timber, fodder and other forest products on a sustainable basis, 2) to protect land against degradation by soil erosion, floods, landslides, desertification, and other effects of ecological disturbances, 3) to conserve the ecosystem and genetic resources, 4) to contribute to the growth of the local and the national economy by managing forest resource, and 5) to develop forest based industry to create opportunities for income generation and employment.	In national level the forest has been divided into two broad institutions, the State institution for state own forest and private institution for privately own forest. Under the state institution forest are divided into community forest, national parks and conservation, national forest, *guthi* and leaseholder forest. Among them community forest is most popular institution promoted through Community Forest Users Group.	The management rights of forest has been fully transfer to community people. The community forest has been fully institutionalised in government bureaucracy also to administer its policy.